



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,536	09/09/2005	Yoshihito Fukushima	267655US6PCT	7167
22850	7590	05/20/2010		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER HEYI, HENOK G	
			ART UNIT 2627	PAPER NUMBER
			NOTIFICATION DATE 05/20/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/534,536	Applicant(s) FUKUSHIMA ET AL.	
	Examiner HENOK G. HEYI	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-3, 10-17 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 8 and 9 of the Remarks page, filed 01/05/2010, with respect to the rejection(s) of claim(s) 1, 2, 14, 15 and 16 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Matsuo Norimasa JP Publication number 08-185632 (Norimasa hereinafter).

Claim Objections

2. Claims 4-9 and 18-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuo Norimasa JP 08-185632 (Norimasa hereinafter).

Regarding claim 1, Norimasa teaches a disc substrate (optical disc, para [0001]) comprising: an eccentricity measuring area (the direction and quantity from which

Art Unit: 2627

tracking has shifted can be detected by detecting an intermediary light-receiving cell with the strongest intensity among the light-receiving cells RF1-RF4 for RF signal detection, para [0019]) in which a groove area formed with spiral grooves and a circular planer mirror area concentric with the spiral grooves are spatially alternately arranged (A track bunch which becomes by two or more tracks (TR_{k1} - TR_{k4}) is formed in parallel spiral shape, and a track interval (d2) between track bunches is formed more widely than a track interval (d1) in a track bunch, para [0005]).

Regarding claim 2, Norimasa teaches a disc substrate according to claim 1(optical disc, para [0001]), but the limitation that states “an interval between the grooves in said groove area allows an optical system of a mechanical characteristic measuring apparatus to measure an eccentricity amount and a fluctuation of a push-pull signal at one end and the other end of said groove formed spirally in said groove area” only describes an intended use and hence it has not been given weight.

Regarding claim 3, Norimasa teaches a disc substrate according to claim 2 (optical disc, para [0001]), but the limitation that states “a width of said groove area and a width of said mirror area allows the optical system of said mechanical characteristics measuring apparatus to measure the eccentricity amount” only describes an intended use and hence it has not been given weight.

Regarding claim 11, Norimasa teaches a disc substrate according to claim 1, wherein a non-data area to attach the disc substrate to a spindle motor, a data area to form an information signal portion, and a non-data area having the eccentricity

Art Unit: 2627

measuring area to measure eccentricity of the disc substrate are sequentially disposed (see drawing 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo Norimasa JP 08-185632 (Norimasa hereinafter) in view of Takemura et al. US 2002/0131360 A1 (Takemura hereinafter).

Regarding claim 10, Norimasa teaches a disc substrate according to claim 1 (optical disc, para [0001]), but Norimasa fails to teach a clamp area to attach an optical disc to a spindle motor is set near a center hole of said disc substrate, an inner rim diameter of said clamp area is selected from a range of 22 to 24 mm, and an outer rim diameter of said clamp area is selected from a range of 32 to 34 mm. However, Takemura teaches range of diameters for non-recording area and data areas (see Fig. 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical disc of Norimasa to have the clamp area in certain diameter range. The modification would have been obvious because of the benefit of designing the clamp area in order to hold the disc on the spindle motor.

Art Unit: 2627

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo Norimasa JP 08-185632 (Norimasa hereinafter) in view of Ogiso et al. US 6,969,764 B2 (Ogiso hereinafter).

Regarding claim 12, Norimasa teaches a disc substrate according to claim 1, but Norimasa fails to teach that a thickness of said disc substrate is in a range of 0.6 to 1.2 mm, an outer diameter of said disc substrate is in a range of 80 to 120 mm, and an inner diameter of a center hole is equal to about 15 mm. However, Ogiso teaches a disc substrate with thickness in a range of 0.6 to 1.2mm, and a diameter of about 80 to 120 mm, and may have a hole having a diameter of about 15 mm at the center (see col 19 lines 60-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical disc of Norimasa to have the spec that is taught by Ogiso. The modification would have been obvious because those thickness and diameter ranges are industry standards.

Regarding claim 13, Norimasa teaches a disc substrate according to claim 1, but Norimasa fails to teach a distance between the grooves formed in a data area is equal to about 0.32 μ m and a width of each groove formed in the data area is equal to about 0.22 μ m. However, Ogiso teaches that the distance between grooves or pitch could be selected to be from the range of 0.25 to 0.8 μ m (see col 87 lines 2-5) and also groove width in a range of 0.2 to 0.27 μ m (see Example B-1 on col 108 and Example B-3 on col 109). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the space between grooves and groove widths of Norimasa's recording medium. The modification would have been obvious because of

Art Unit: 2627

the benefit of designing the space between grooves and groove width in increasing the amount of data that could be recorded on the recording disc.

8. Claims 14-17, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo Norimasa JP 08-185632 (Norimasa hereinafter) in view of Kadowaki et al. US 2005/0199778 A1 (Kadowaki hereinafter).

Regarding claim 14, Norimasa teaches an optical disc (optical disc, para [0001]) comprising: a disc substrate having an eccentricity measuring area (the direction and quantity from which tracking has shifted can be detected by detecting an intermediary light-receiving cell with the strongest intensity among the light-receiving cells RF1-RF4 for RF signal detection, para [0019]) in which a groove area formed with spiral grooves and a circular planer mirror area concentric with the spiral grooves are spatially alternately arranged (A track bunch which becomes by two or more tracks (TR_{k1} - TR_{k4}) is formed in parallel spiral shape, and a track interval ($d2$) between track bunches is formed more widely than a track interval ($d1$) in a track bunch, para [0005]); an information signal portion formed on one principal plane of said disc substrate (It has a signal processing part, para [0006]); but Norimasa fails to teach a protective layer for protecting said information signal portion. However, Kadowaki teaches a protective layer in para [0317]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical disc of Norimasa to include a protective layer as taught by Kadowaki. The modification would have been obvious because of the benefit of protective layer in protecting the disc from unwanted scratches and dusty particles.

Regarding claim 15, Norimasa teaches an optical disc according to claim 14, but Norimasa fails to teach said protective layer has light transmittance and at least one of recording and reproduction of an information signal is executed by receiving a laser beam from a side where said protective layer is provided. However, Kadowaki teaches a transparent protective layer that lets light beam pass through it (para [0297]).

Regarding claim 16, Norimasa teaches an optical disc according to claim 14 (optical disc, para [0001]), but the limitation that states “an interval between the grooves in said groove area allows an optical system of a mechanical characteristic measuring apparatus to measure an eccentricity amount and a fluctuation of a push-pull signal at one end and the other end of said groove formed spirally in said groove area” only describes an intended use and hence it has not been given weight.

Regarding claim 17, Norimasa teaches an optical disc according to claim 16 (optical disc, para [0001]), but the limitation that states “a width of said groove area and a width of said mirror area allow the optical system of said mechanical characteristics measuring apparatus to measure the eccentricity amount” only describes an intended use and hence it has not been given weight.

Regarding claim 24, Norimasa teaches an optical disc according to claim 14, but Norimasa fails to teach said protective layer is made of a light transmitting layer and includes a sheet adhered onto one principal plane of the substrate on a side where said information signal portion has been formed. However, Kadowaki teaches a transparent protective layer that lets light beam pass through it (para [0297]).

Regarding claim 26, Norimasa teaches an optical disc according to claim 14, wherein a non-data area to attach the disc substrate to a spindle motor, a data area to form the information signal portion, and a non-data area having an eccentricity measuring area to measure eccentricity of the disc substrate are sequentially disposed (see drawing 1).

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo Norimasa JP 08-185632 (Norimasa hereinafter) and Kadowaki as applied to claim 14 above, and further in view of Takemura et al. US 2002/0131360 A1 (Takemura hereinafter).

Regarding claim 25, Norimasa teaches an optical disc according to claim 14, but a clamp area to attach an optical disc to a spindle motor is set near a center hole of said disc substrate, an inner rim diameter of said clamp area is in a range of 22 to 24 mm, and an outer rim diameter of said clamp area is in a range of 32 to 34 mm. However, Takemura teaches range of diameters for non-recording area and data areas (see Fig. 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical disc of Norimasa to have the clamp area in certain diameter range. The modification would have been obvious because of the benefit of designing the clamp area in order to hold the disc on the spindle motor.

10. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo Norimasa JP 08-185632 (Norimasa hereinafter) and Kadowaki as applied to claim 14 above, and further in view of Ogiso et al. US 6,969,764 B2 (Ogiso hereinafter).

Art Unit: 2627

Regarding claim 27, Norimasa and Kadowaki teach an optical disc according to claim 14, but both of them fail to teach a thickness of said disc substrate is in a range of 0.6 to 1.2 mm, an outer diameter of said disc substrate is in a range of 80 to 120 mm, and an inner diameter of a center hole is equal to about 15 mm. However, Ogiso teaches a disc substrate with thickness in a range of 0.6 to 1.2mm, and a diameter of about 80 to 120 mm, and may have a hole having a diameter of about 15 mm at the center (see col 19 lines 60-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical disc of Norimasa to have the spec that is taught by Ogiso. The modification would have been obvious because those thickness and diameter ranges are industry standards.

Regarding claim 28, Norimasa and Kadowaki teach an optical disc according to claim 14, but both of them fail to teach that in a system for recording onto the grooves, a distance between the grooves formed in a data area is equal to about 0.32 gm and a width of each groove formed in the data area is equal to about 0.22 μm . However, Ogiso teaches that the distance between grooves or pitch could be selected to be from the range of 0.25 to 0.8 μm (see col 87 lines 2-5) and also groove width in a range of 0.2 to 0.27 μm (see Example B-1 on col 108 and Example B-3 on col 109). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the space between grooves and groove widths of Norimasa's recording medium. The modification would have been obvious because of the benefit of designing the space between grooves and groove width in increasing the amount of data that could be recorded on the recording disc.

Art Unit: 2627

Regarding claim 29, Norimasa and Kadowaki teach an optical disc according to claim 24, but both of them fail to teach that the sheet which is used to form said light transmitting layer comprises a light transmitting sheet and a PSA (Pressure Sensitive Adhesion) adhered to one surface of said light transmitting sheet. However, Ogiso teaches a protective layer being attached to a recording layer by an adhesive layer (see col lines 19 30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical recording medium of Norimasa and Kadowaki by attaching the light transmitting protective layer to the rest of the disc layers by the use of a pressure sensitive adhesive. The modification would have been obvious because of the benefit of PSA in reliable adhesion in disc manufacturing process.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2004-062991 was published over a year before the effective filing date of applicant's current application and has similar disclosure to the disclosure in the current application. Unless applicant submits translation of the documents applicant sought foreign priority for, this reference could be applied.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

Art Unit: 2627

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Henok G Heyi/
Examiner, Art Unit 2627

/Daniell L. Negrón/
Primary Examiner, Art Unit 2627
May 17, 2010